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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,554	06/12/2001	James E. Dibb	1956/135	4580

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EXAMINER

BADERMAN, SCOTT T

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 07/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/879,554

Applicant(s)

DIBB, JAMES E.

Examiner

Scott T Baderman

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 19 is objected to because of the following informalities: In line 3 "the replacement disk drive" lacks antecedent basis. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, the limitation "such that the mirrored subsystem includes error correction data from the redundancy group" is not described in the specification. On page 6, lines 27-28, it states that "Logic in the array controller 25 stores 140 each reconstructed data block to the mirrored subsystem 40." This description lacks any teaching that the mirrored subsystem includes error correction data from the redundancy group.

Regarding claims 2-15, these claims are rejected based on their dependency on claim 1.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kedem (6,154,853).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

Art Unit: 2113

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As in claim 16, Kedem discloses a computer implemented method for handling a failed disk drive in a redundancy group of disk drives in an array of disk drives, wherein the failed disk drive is located in a failed disk drive slot that comprises creating a mirrored subsystem within the array including a temporary disk drive (spare) and the failed disk drive slot (Figures 4 and 5, Abstract, column 5: lines 5-59, column 6: lines 35-57), reconstructing each data block of the failed disk drive and writing each reconstructed data block to the mirrored subsystem (Figures 4 and 5, column 5: lines 37-59).

As in claim 17, Kedem discloses inserting a replacement disk drive in the failed disk drive slot, copying data from the temporary disk drive (spare) to the replacement disk drive, and replacing the mirrored subsystem with the replacement disk drive after the data on the replacement disk drive matches the data on the temporary disk drive (i.e., once the data from the spare device has been written to the replaced disk (i.e., it matches) and the parity regenerated for all of the logical volumes, the spare device can be returned to an inactive state) (column 6: lines 35-57).

As in claim 18, Kedem discloses a disk drive array system that comprises a redundancy group comprising at least two disk drives and associated disk drive slots (elements 32, 34, 36 and

Art Unit: 2113

38 of Figure 3), a temporary (spare) disk drive with an associated temporary disk drive slot (elements 31, 33 and 35 of Figure 3), logic that detects a failure of one of the disk drives in the redundancy group (column 2: lines 32-35), logic that reconfigures the redundancy group to comprise the disk drives in the redundancy group that have not failed and a second storage array, wherein the second storage array operates as a mirrored subsystem comprising the temporary (spare) disk drive and the disk drive slot associated with the failed disk drive (Figures 4-6, column 5: lines 5-59), and logic that reconstructs the data blocks on the failed drive to the mirrored subsystem (Figures 4-6, column 5: lines 37-59).

As in claim 19, Kedem discloses logic that restores the redundancy group to its initial configuration, wherein a replacement disk drive replaces the failed disk drive after the temporary disk drive and a replacement drive inserted in the disk drive slot associated with the failed disk drive contain the same data (column 6: lines 35-57).

### ***Response to Arguments***

6. Applicant's arguments filed April 22, 2004 have been fully considered but they are not persuasive.

With respect to claims 1, 16 and 18, the Applicant argues that each of these claims require that the error correction data blocks are reconstructed and are included in the mirror subsystem. The Applicant then argues that Kedem that that error correction data from the RAID group is not mirrored.

Regarding claim 1, after careful review of the specification, specifically page 6, lines 21-27, the Examiner did not find any written description of the limitation “such that the mirrored subsystem includes error correction data from the redundancy group” that would reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. See 112, 1<sup>st</sup> paragraph, rejection above.

Regarding claims 16 and 18, the Applicant states that since both claims include the limitation “reconstructing each data block of the failed disk drive in the redundancy group; and writing each reconstructed data block to the mirrored subsystem” that they require reconstructing the “error correction data blocks” of the failed disk drive and writing these blocks to the mirrored subsystem. The Examiner respectfully disagrees. This limitation does not include this interpretation nor does the specification support such interpretation.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2113

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott T Baderman whose telephone number is (703) 305-4644. The examiner can normally be reached on Monday-Friday, 6:45 AM-4:15 PM, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Scott T Baderman  
Primary Examiner  
Art Unit 2113

STB